

FIG. 1

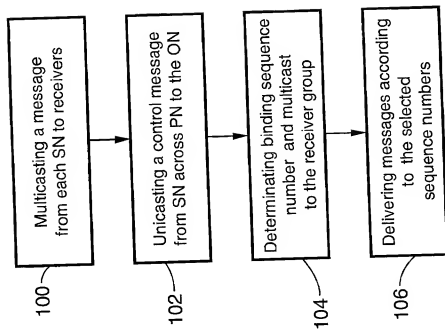


FIG. 2

TODOT'SHESEOT

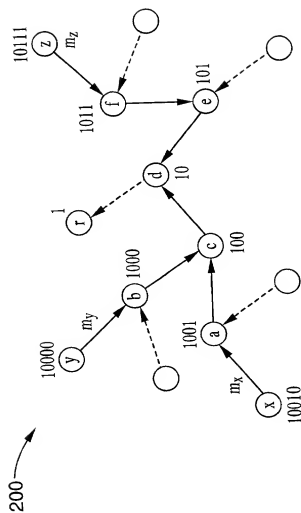


FIG. 3

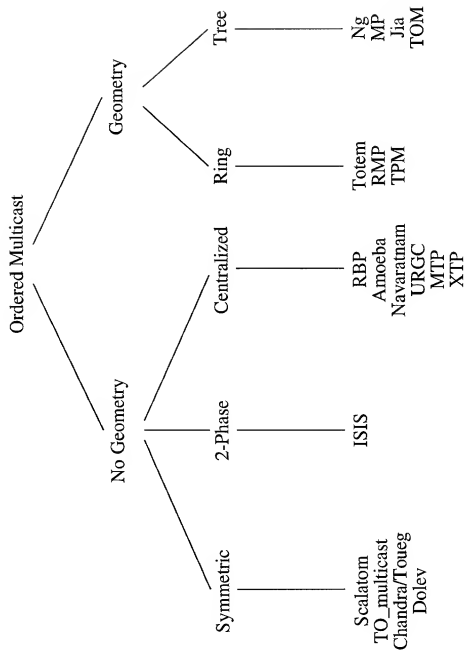
300

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proc TOM (node i)
Cobegin
    TOM_send(); TOM_receive()
Coend
proc TOM_send (message  $m^b$ , receivers Rec)
Begin /* i is SN */
    If  $m \neq 0$  And  $i = \text{SN}(m)$ 
        Then  $m^h = (l(i)\_Rec, seq\_#, \_, false)$ 
             $m = (m^h, m^b)$ 
            reliable_multicast(m, Rec)
            TOM_cast( $m^h$ , parent(i))
    End
proc TOM_cast (message m, receiver rec)
Begin /* self-route from node i to rec */
    If  $ll(i) > ll(receiver)l$ 
        OrIf  $l(i) \neq \text{prefix}(rec)$ 
            Then If  $\exists \text{parent}(i)$ 
                Then unicast(m) to parent(i)
            Else If  $\exists \text{children}(i)$ 
                Then unicast(m) to child(i)
                    where  $l(\text{child}(i)) = \text{prefix}(l(rec))$ 
            End
proc TOM_receive (message m; receivers Rec)
Begin
    If  $i \notin Rec(m)$  /* i is EN */
        Then unicast(m) to parent(i);
    Else If of(m) = false And  $m^b = 0$  /* i is pN */
        Then tag with new seq#;
        TOM_cast(m, parent(i))
    Else If  $l(i) \in Rec$  /* i is RN */
        Then If  $m^b \neq 0$ . And of(m) = false
            Then insert ( $m^b, uw$ )
            Else shift m from  $uw$  to  $ow$ 
                deliver(head( $ow$ ), local processes)
        Else compute longest common prefix lcp = (m, pm)
            If lcp =  $l(i)$  /* i is ON */
                And (query parent(i) for pending msgs = 0)
                Then Forall msgs in  $uw$  select seq#s
                    shift msgs with set seq#s into  $ow$ 
                    TOM_cast(head( $ow$ , Rec))
            End
End

```

FIG. 4

**FIG. 5**

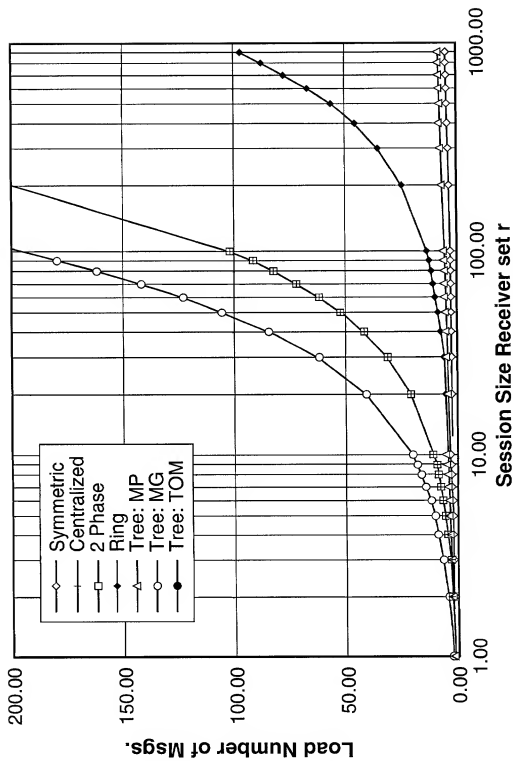


FIG. 6